

highly metabolic and require oxygen very rapidly. My contentions were further proven by preparing slides and sealing the edges of the cover slips with a thick ring of paraffin. The blood was made to flow over along the edges as usual, but no syncytial tissue-like masses were formed. Apparently the air was unable to filter through this thick layer of paraffin.

A drop of blood permitted to remain in the center of the cover slip usually will assume a light yellow or light brown color. However, if the preparation is manipulated in such a way as to permit the drop of blood to come in contact with the edges of the cover-slip it rapidly turns black in color. This is due to the fact that the air filters through the vaseline and the tyrosinase present in insect blood oxidizes the colorless tyrosine producing a dark pigment.

A LARGE NUMBER OF SPECIES OF BUTTERFLIES OBSERVED IN ONE DAY'S COLLECTING.

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This paper might be entitled Butterflies of Fort Montgomery, as it deals exclusively with those observed at that locality, except that no attempt has been made to list all the species known to occur there. The writer simply wishes to bring out what he believes to be an extraordinary number of forms observed on the wing in one day in a single locality.

Fort Montgomery, Orange Co., N. Y., is a small historic town situated on the west bank of the Hudson River, some five miles south of West Point and about forty-three miles, on an air line, north of New York City. It is practically in the heart of the Highlands, with Anthony's Nose looming up on the opposite shore and Bear Mountain a mile or two to the west.¹ The region is well watered and rather rugged; the hills are steep and attain an average altitude of about 1,200 feet; the vegetation is rich and diversified. The collecting

¹ Those interested should consult the U. S. Topographical Maps—West Point and Sehunemunk Quadrangles.

is naturally excellent and this, together with the charming scenery, makes a day spent there of great delight to the naturalist.

It would not be fair to speak of Fort Montgomery without a word of thanks to Mr. Wm. T. Davis, the first of our local entomologists to collect there and the one who induced the writer, among others, to visit the region.

On July 1, 1906, Messrs. Gaylord C. Hall, Harvey Mitchell and the writer journeyed to Fort Montgomery via the West Shore R. R. and arrived about 9 A. M. We followed the road running west to The Torne, taking the left-hand fork which traverses the region back of Bear Mountain. We collected mostly on the road but the adjacent fields, meadows and open places were also examined. It was a clear, beautiful day, just nicely hot for butterflies, and they were in great abundance.

PAPILIONIDÆ.²

Papilio polyxenes asterius Cramer.³

Papilio glaucus glaucus Linné. Common about the wet spots along the road and also on dung.

Papilio troilus troilus Linné. Very common, under the same conditions as the preceding species and often in company with it.

Papilio marcellus Cramer. A single specimen was seen by Mr. Mitchell feeding at a damp place in the road, in company with *glaucus* and *troilus*; it immediately took wing and, although followed some distance down the road, it escaped by flying into the thick woods.

PIERIDÆ.

Pieris rapæ (Linné). Common everywhere.

Eurymus philodice (Godart). Common.

DANAIDÆ.

Danaus archippus (Fabricius).

SATYRIDÆ.

Enodia portlandia (Fabricius). About five or six specimens were seen. They may be found on dung or damp spots along roads.

²For convenience the Check List of Barnes and McDunnough is here followed.

³Nomenclature after Rothschild and Jordan.

Cissia eurytus (Fabricius). Common.

Satyroides canthus canthus (Linné).

Cercyonis alope (Fabricius).

NYMPHALIDÆ.

Argynnis idalia (Drury). One freshly emerged male was captured and forms the only record.

Argynnis cybelle cybelle (Fabricius). Very common along the road at mud-puddles, on dung and on milk-weed blossoms.

Argynnis aphrodite aphrodite (Fabricius). Very common and generally in company with the preceding species.

Brenthis bellona (Fabricius).

Euphydryas phaeton (Drury). The only specimens recorded were two females captured by Mr. Hall.

✓ *Phyciodes nycteis nycteis* (Doubleday and Hewitson). Common along the road and rather old and worn.

Phyciodes tharos tharos (Drury). Common.

Polygonia interrogationis f. *æst. umbrosa* (Lintner). Rather common at springs, damp places along the road and on dung.

Polygonia comma f. *æst. dryas* (Edwards). Very common at the same places as the preceding species.

Polygonia progne (Cramer). About nine specimens were captured by us and a few others were noted. Found under the same conditions as the preceding species.

Aglais j-album (Boisduval and Le Conte). Seven were taken by us; only a few others were seen. Observed in similar situations as the preceding species. One individual trapped itself in Mr. Hall's net. Mitchell who was a few yards ahead, struck at this specimen and missed; it flew into Hall's net, which he was holding above his head at the time, and perched complacently in the bottom.

Aglais antiopa (Linné). At wet spots along the road, etc.

Vanessa atlanta (Linné). On dung, damp places, etc.

Vanessa virginiensis (Drury) = *huntera* (Fabricius). Habits similar to those of the preceding species.

Basilarchia astyanax (Fabricius). Rather common. It is found on dung, muddy places, etc.

Basilarchia archippus (Cramer). Very common.

LYCÆNIDÆ.

Strymon titus titus (Fabricius). Not common. Very fond of milk-weed blossoms.

Strymon edwardsi (Saunders). Scarce. Found on the milk-weed flowers.

Strymon calanus (Hübner). Exceedingly common, especially in the mid to late afternoon. Mitchell took a very large and fine series. They are very fond of flitting about the low terminal branches of butternut-trees, which is one of its food-plants. These butterflies may also be found sitting about on the vegetation and feeding on the milk-weeds.

Heodes hypophlæas hypophlæas (Boisduval). Common.

Everes comyntas comyntas (Godart). Common.

Lycænopsis pseudargiolus pseudargiolus f. *æst. neglecta* (Edwards). Rather common. On damp places along the road.

HESPERIIDÆ.

Epargyreus tityrus (Fabricius). Common. On flowers, dung, etc.

Achalarus lycidas (Smith and Abbot). Rather common. On milk-weed blossoms.

Cocceius pylades (Scudder). Common.

Ancyloxypha numitor (Fabricius). Common.

Polites manataaqua (Scudder). The two females captured were the only ones seen.

Polites mystic mystic (Scudder). In damp meadows and marshes.

Polites peckius (Kirby). Common. On flowers, etc.

Catia otho egeremet (Scudder). Common. On flowers, etc.

Poanes hobomok (Harris). Common. The specimen observed were very old.

Euphyes vestris (Boisduval) = **metacomet** (Harris). Rather scarce. The individuals taken were in fresh condition. To be found at damp places and on dung along the roads, as well as on various flowers, especially those of *Asclepias*. This species had become common by July 4.

Atrytonopsis verna (Edwards). Common. Habits similar to the preceding species.

It will be noticed that the above list contains forty-four species.

I believe that there were fifty, possibly one or two more, species flying on this day and that, with a little more luck, the list would have reached the half-hundred mark. The following notes will, I think, bear out my contention.

On July 4, of the preceding year, the writer took ~~to~~ flown specimens of *Mitoura damon damon* (Cramer) at the same locality. As we did not have time to visit that section of the territory where the *damon* were previously taken and where there is a station of red-cedar trees, we may have missed this species. It is possible, of course, that 1906 was not a *damon* year.

On July 4, 1906, or three days later than the date of the above list, I again visited the same region. It was expected that even a larger number of forms would be recorded but in this I was disappointed. The day was clear and fine but for some reason butterflies were not so numerous as they were on July 1 and only thirty-nine species and one variety were noted. The varietal form being a single worn specimen of *Poanes hobomok* form *pocahontas* (Scudder). This species, as is well known, is most common during early June. Two old specimens of this dimorphic form were also observed by me at this locality on June 24 of the same year, so that it was certainly flying on July 1 although not observed by us. Three additional species which were captured on the July 4 trip were: *Feniseca tarquinius* (Fabricius), two specimens, somewhat flown, one of which alighted on my hand and fed on the perspiration; *Strymon acadica* (Edwards), several individuals, somewhat worn; and *Enphyas conspicua* (Edwards) = *pontiac* (Edwards), two specimens, condition not noted. Of these three species, *tarquinius* and *acadica* were surely flying on July 1 and more than likely *conspicua* was as well.

It was with considerable reluctance that we quit such good collecting, about 4 P. M., in order to catch our train. The forty-four species were, therefore, collected in about six and one half hours (allowing half an hour for lunch) and probably over less than five miles of territory.